

Entire Sub Spec
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CRUISE CONTROL DEVICE AND METHOD IN A MOTOR VEHICLE

Field Of The Invention

The present invention relates to a device and a method for controlling the speed of a motor vehicle, the cruise control being performable as a constant-distance regulation if at least one preceding vehicle has been detected by a radar sensor, or the cruise
5 control being performable as a constant-speed regulation if no preceding vehicle has been detected by a radar sensor. Measured object values for known objects are supplied to the cruise control, which includes a computing means which determines an acceleration gradient for each measured value of each object and adds up the individual acceleration gradients of the measured values for each object and outputs
10 the added-up acceleration gradients for the object selected as the target object.

Background Information

The publication "Adaptive Cruise Control System Aspect and Development Trends" by Winner, Witte, Uhler and Lichtenberg, published at the SAE International Congress and Exposition, Detroit, February 26 – 29, 1996 (SAE paper 961010),
15 describes an adaptive cruise control which emits a radar beam and receives the portion of the beam reflected by stationary objects and preceding vehicles. If this cruise control recognizes a preceding vehicle, cruise control is performed as a constant distance regulation in relation to the preceding vehicle. If the radar system does not detect a preceding vehicle, cruise control is performed as a constant-speed
20 regulation at a set speed defined by the driver. The accelerations and changes in acceleration over time implementable by adaptive cruise controls are limited here by fixed maximum values, because the adaptive cruise control is intended as a comfort system for driver support and therefore aims at a comfortable driving characteristic. The disadvantage of such systems in which the acceleration gradients are
25 determined independently of the dynamic data of preceding vehicles is that these acceleration jolts cause discomfort. In non-critical situations, for example, when approaching a preceding vehicle at a low relative speed, the fixedly predefined acceleration jolt is perceived as too high and therefore uncomfortable, and in